APPENDIX A: ISSUES, QUESTIONS AND CONCERNS FROM PUBLIC INVOLVEMENT

The public involvement process begins with a mailing of postcards to all the residents within and directly adjacent to the proposed treatment sites to notify them of public meetings about the proposed project. Postcards were mailed out on January 3, 2011. All questions, answers and comments are recorded from the public meetings. Contact information is also provided at the meetings to allow the public to comment by letter, phone or email at a later date. All comments received after the public meetings are recorded and a response given to the resident by phone, email, letter or a combination of the above.

In addition to postcard mailings to residents, additional means of notification were used. IDNR press releases, public notices in local newspapers, the IDNR - Div. of Entomology and Plant Pathology website and Twitter were used to provide information and updates on public meetings.

All questions, comments and concerns from the meetings, letters, emails and phone calls received during the public comment time period (Beginning Tuesday, January 25, 2011 and Ending Friday, February 25, 2011) are summarized in this appendix.

At each of the public meetings (Table 1), representatives from the Division of Entomology and Plant Pathology presented the proposed gypsy moth project, and answered and received questions and comments. The presentation explained:

- the life cycle, feeding habits and hosts of gypsy moth;
- the identification of gypsy moth;
- survey methods;
- gypsy moth impacts and damage to the trees and forest;
- selection of proposed sites;
- selection of the treatment options;
- the timing and application of treatments;
- boundaries of the treatment sites with maps;,
- the public comment time period and decision process.

Both during and following the presentation, questions and comments were taken, answered and discussed with the people attending the meetings.

Representatives from Purdue University, other agencies and product manufacturers also assisted in answering questions and concerns that were presented by the public through email and phone calls.

The questions and comments received at the public meetings and after the public meetings concerned four main issues:

- Human health and safety;
- Nontarget effects and environmental effects;
- Economic and political impacts;
- Likelihood of success of the proposed project, and the treatment options proposed.

ISSUES

Human health and safety

The questions and comments received from the public regarding human health and safety were in three general areas:

- the use and risks of Btk and mating disruption
- the decision and notification process for the implementation of the project
- the time of application of Btk and mating disruption

Btk questions were asked concerning the name of the product; the risk to adults and children; when people can go outside again after a treatment and if there is any kind of irritation caused by the product. The responses explained the Btk product name is Foray 76B and it is approved for use in the State of Indiana; that no hazards either immediate or cumulative have been identified for the general public when exposed to Btk; that Btk naturally occurs in the soil; that Application of Btk will be suspended when school buses are in the site and when children are outside on school grounds ; that Btk is applied to foliage; and that Btk dries in about 30 minutes and we recommend people wait that amount of time before going outside. We recommended that individuals that are sensitive or have respiratory concerns may want to stay indoors during treatments. It was asked whether there were any contra indications where Btk has been used. It was replied that Btk has had a very good safety record. Questions were also asked regarding what the inert ingredients are in the Btk and it was replied that the inert ingredients are all EPA approved and that individuals can contact Valent BioSciences (manufacturer of Foray 76B) for additional information. Individuals were also referred to the Office of the Indiana State Chemist, Indiana State Dept. of Health and Jodie Ellis with Purdue University for additional information on both the Btk and mating disruption products. A question was asked regarding concern in treating over water and hospitals. It was replied that we only treat over areas with habitat; Btk is approved for use over water; and hospitals are contacted prior to treatments.

A question was asked if follow up was done to see if there were any effects from the treatments. Contact with local health departments, the Office of the Indiana State Chemist and local emergency officials is made after treatments for information on any reports by the public of adverse affects. Reports of adverse affects directly reported to the IDNR, Div. of Entomology and Plant Pathology are also documented.

Questions were asked about how much research has been done on Btk and if Btk had been tested as a cancer causing agent and it was stated that Btk has been evaluated for this and the individual was referred to Jodie Ellis with Purdue University for additional information.

Mating disruption questions were asked concerning the risk or possible side effects to adults and children. It was responded that no hazards, either immediate or cumulative, have been identified for the general public when exposed to pheromone products. The product that would be applied is a duplication of the natural pheromone already being released by adult female gypsy moths and is specific to gypsy moth. A comment was made about concern in inhaling the synthetic pheromone, and it was replied that if someone has respiratory problems we recommended that they remain indoors during the treatment and that upon request those with health problems can be put on a call list prior to treatment. Concerns were asked in regards to the mating disruption products getting into the ground water and swimming pools. It was replied that the product is a plastic flake, food grade adhesive and the female gypsy moth pheromone and that the pheromone was specific to gypsy moth. A question was asked if the flakes have a static charge and it was replied no. A question was asked about the smell of the mating disruption flakes and it was replied the flakes do have the pheromone of the female moth incorporated into them and that there was a smell. A question was asked as to what the actual chemical name was of the pheromone ingredient and it was replied it was (Z)-7, 8-epoxy-2-metholoctadecane and that more information can be obtained on the fda.gov website.

A question was asked if mating disruption could affect garden plants and it was replied that the product is specifically targeted to male gypsy moths.

A question was asked if mating disruption would be applied at the Walkerton, Koontz Lake or Tamarack Road proposed sites this year. It was replied no.

Questions that were asked regarding the decision and notification process for proposed treatments were: would the public be notified when the treatments would occur and would updates be posted on the website. The responses explained that residents would be notified by mail approximately two weeks prior to the treatment; that residents would be notified through local media (radio, television, newspaper) a couple days prior to the treatment; and that updates would be posted to our IN Dept. of Natural Resources website and Twitter . Local emergency personnel and the county Purdue cooperative extension service would also be notified. It was also replied that all timing of treatments is based on the gypsy moth biology and weather conditions. It was also asked if an individual received a postcard, does that mean they are in the actual treatment area. It was replied that postcards were also sent to residences directly adjacent to the treatment area and receipt of the postcard did not mean your residence would necessarily get treated. A question was asked if any other meetings were scheduled for the Wabash/Miami County areas and it was replied no.

A comment was made by one individual that the local tornado siren might be an option for notifying residents of the treatment date, if bad weather was not present that day.

Questions were asked regarding the time of the application and the response was that the timing of the treatments was dependent upon weather conditions and that treatments are generally started in the early morning hours (first light). Btk treatments are applied during May and mating disruption treatments are applied during June. Btk treatments target the young caterpillars and mating disruption treatments target the adult male moths. It was asked how treatment with Btk versus mating disruption is determined. It was replied that the number of moths caught in the trapping survey and whether or not egg masses were found are the big factors in determining which treatment is recommended. It was asked if mating disruption treatments would be applied once or twice. It was replied that mating disruption would be applied once. Questions were asked regarding how low the planes fly and the response stated that the treatment planes fly low, just over the tree tops. Usually about 150 feet above the tree tops and that areas of homes would be treated because of the presence of landscape trees. A question was asked if it was easy to recognize the treatment planes and it was replied that the Btk application planes are small crop duster type planes and usually yellow in color and the mating disruption planes are similar to small passenger planes and usually white in color. It was asked how long the mating disruption treatments took. It was replied that it depended on the acreage of the treatment sites and the size of the planes used.

A comment was made by one individual that they would have liked to receive notification of when the survey traps were placed and that the survey may lead to possible treatment of the area.

A couple of questions were asked regarding additional treatment product options. A question was asked regarding the safety of Sun Oil treatments for egg masses and it was replied that the product is soybean based. A question regarding safety of Dimilin as an aerial treatment was also asked, and it was replied that Dimilin has not been used for aerial treatments in Indiana.

A question was asked if the gypsy moth caterpillar was poisonous. It was replied no.

Nontarget effects and environmental effects

The questions and comments received from the public regarding nontarget effects and environmental effects were in three general areas:

- the effects of Btk and mating disruption to species other than gypsy moth
- the effects of Btk and mating disruption to drinking water for animals
- the effects of Btk and mating disruption on plants and trees

Questions were asked if Btk affects mammals, fish, birds and nontarget lepidopteran. It was replied that Btk does not negatively affect mammals, fish and birds. Btk naturally exists in the soil. It was stated that Btk can affect other nontarget butterfly and moth

(lepidopteran) caterpillars; however, Btk will be applied at a time of year when the majority of caterpillars have not hatched yet. Btk only affects the larval or caterpillar stage.

Questions were asked if mating disruption would affect honeybees, aphids, small pets, livestock or anything other than gypsy moth and it was stated that it has no effect on honeybees, aphids, small pets, livestock or anything other than gypsy moth. The pheromone is specific to gypsy moth. A question was asked if mating disruption would affect water in pet bowls and it was stated it would not. A question was asked if mating disruption would affect bagworm and it was stated it would not affect bagworm. It was asked if mating disruption would affect garden plants or crops and it was replied that it did not affect plants and farmlands were not treated. It was asked if the pheromone had been known to disrupt mating of other species and it was replied no. It was asked if the mating disruption had a residual effect and it was stated that there was some residual effect from the flakes and it took some time for the plastic flakes and pheromone to break down.

It was asked if any of the trees would be pollinating at the time of mating disruption treatments and it was replied no.

It was asked if mating disruption products could cause water contamination and it was replied that it did not. Questions were asked about whether mating disruption treatments would occur over lakes and it was stated that mating disruption does not affect fish and lakes are not treated.

A question was asked when egg masses are removed from wood, if it left a carved out area in the wood. It was replied that there was no damage to the wood from removal of the egg mass.

Economic and political impacts

The questions and comments received from the public regarding economic and political impacts were in three general areas:

- the decision for the implementation of the project
- funding for implementation of the project
- the national gyspy moth Slow The Spread Project

Questions were asked whether or not the decision to treat was already made, it was replied that a decision had not been made yet and would not be made until after the end of the public comment period (ending February 25, 2011). Citizens wanted to know what would happen to the comments made by the public. The reply stated that all comments would be reviewed by the IDNR and cooperating agencies and that all comments and the available funding would be considered when making the final decision. It was asked if the funding for the project was provided by the state and it was replied that the funding costs were shared by the Indiana DNR and the US Forest Service. A question was asked

in regards to how large of a population of gypsy moth has to be present before treatments are conducted. It was replied that larger numbers indicating population growth would need to be found in survey traps. It was asked if we caught 10 moths in one trap, would we treat. The response was that it would depend on what the trap counts were around that 10 moth catch. It was asked if it was expensive to treat and it was replied that most of the cost of treatment for mating disruption was federally funded and the speaker did not know the exact cost. A question was asked if permission to do the treatments or contact was made with city officials prior to the treatment and it was replied that contact would be made with city officials and emergency management personnel. A question was asked what would happen if we did not treat for the gypsy moth in Starke County and it was stated that eventually populations will grow and they will kill trees in the area.
A question was asked if aerial treatments caused damage to automobiles or homes and it was stated that they did not, but cars may need to be washed.

It was asked how other states such as Wisconsin and Michigan were affected by gypsy moth and if they conducted treatments. It was replied that these states do suppression treatments in local areas to knock down populations during heavy outbreaks and quarantines are used to restrict movement of high risk items out of infested areas. Additional states also do treatments for gypsy moth. A question was asked about management once an area is in the generally infested area and it was replied that states may not have funding to treat once that level is reached.

Questions were asked by members of the Tribal Council of the Miami Nation of Indians of Indiana as to how many states participated in the national gypsy moth Slow The Spread Project. It was replied that most of the states from North Carolina over to Minnesota participated. A Tribal Council member also asked if cooperation in this project would help the Miami Nation develop a relationship with the State of Indiana. It was replied that the IDNR, Div. of Entomology and Plant Pathology represents one division of one department in state government and that the IDNR, Div. of Entomology and Plant Pathology appreciates their assistance and will work with them in the future regarding issues on Tribal Lands in Indiana. The question was also asked if the Frances Slocum State Forest would be treated. It was replied that portions of the state forest property would be treated.

The Tribal Council of the Miami Nation of Indians of Indiana voted on March 19, 2011 on the proposed treatment over their lands in Miami County and voted in support of the proposed treatment.

A question was asked if the state was stepping up management in state forests. It was replied that treatments for gypsy moth and other pests have been done in state forests in Indiana.

A comment was made at the Adams County meeting that they thought more people would have been at the meeting had the weather been better. It was stated that every effort was made to notify the public of cancelled and rescheduled meetings due to

weather conditions. In addition, the meeting location at Adams County had put up a notice at the meeting room of time and date changes.

A question was asked at a meeting for the Highland proposed treatment site in Lake County as to what the purpose of the public meeting was. It was replied the purpose was to present the treatment proposal for that area.

A question was asked how one can get involved in the contract application process with our projects and they were referred to Phil Marshall with IDNR, Div. of Entomology and Plant Pathology and Donna Leonard with the U.S. Forest Service.

A positive comment was received at an Allen County meeting stating the meeting was very informative. A positive comment was received at a Lake County meeting stating they were glad the government was taking care of this problem for them. A positive comment was received at a Lake County meeting stating they were proud of what the state was doing to slow the spread of gypsy moth as this individual has seen what this pest can do while being in New York.

Positive comments were sent to us after meetings in Adams, Grant, Marshall and Lake Counties praising the public meeting presentations and professionalism of the speakers.

Some concerns were raised by some individuals (a minority of the overall response) regarding the affect that Btk or mating disruption might have on allergies, asthma or other respiratory problems and in regards to inert ingredients in the treatment products. Three individuals (one from Allen County, one from Grant County and one from Lake County) were opposed to the proposed treatment in their area. Responses to address these concerns were given to these individuals. The specific concerns and the responses are listed in the Human Health and Safety Issues. Any comments made at the public meeting, in addition to any subsequent comments received by phone, letter or email were documented.

Likelihood of success of the proposed project and the treatment options proposed

The question was asked regarding how effective Btk has been where we have used it in the past and it was stated that we have had good success with it in the past. Btk treatments knock back populations and lessen the damage from the caterpillars. The question was asked if Btk was used in the Lindenwood site last year and it was replied that it was used. Additional explanation was given on the history of treatments at the proposed Lindenwood site. It was asked if fence rows would be treated and it was replied yes. It was asked if the cause of managing gypsy moth in Fort Wayne was hopeless. It was replied that natural enemies will rise as populations increase and will help with management of the populations. This fluctuation of gypsy moth populations and natural enemies will occur in cyclic periods of time. A question was asked as to how many times the Springrose Heath site area in Lake County had been treated. It was replied that areas within Lake County have been treated within the past five years. A question was asked in Porter County if it would not be better to set traps instead of

treating, and it was replied that trapping alone would not manage the population adequately. At the Wabash/Miami Counties meeting it was asked how high the populations would get if we did not treat. It was replied that there could be significant increases in populations over the next 5-10 years and that the population would expand over a larger area.

A question was asked as to why we don't target the adult female moths in treatments and it was replied that we do not have good detection tools to locate the adult females. A question was asked if mating disruption affected the egg masses and it was stated that mating disruption affects the ability of adults to find mates and reproduce. A question was asked if the gypsy moth mating disruption worked similar to Japanese beetle traps. The reply was that yes, they worked by a similar means. A question was asked about how we would know if a mating disruption treatment was successful and it was stated we would do trapping survey in the area again next year to evaluate the population level. A question was asked as to how long a mating disruption treatment might be effective. It was replied that the treatments may hold the populations down for a number of years, possibly 5-8 years. The question was asked how long before an area is retreated. It was replied that the amount of time between any future treatments varies according to the success of the earlier treatments and the current population levels. The question was asked about where in Indiana treatments have been successful. It was replied that if we are slowing down the spread of gypsy moth, then a treatment is successful. Success in slowing the spread has occurred in several areas across Indiana. A question was asked if parks in Indiana have been saved. It was replied that gypsy moth has been managed in most parks and many parks are providing funding for that management.

A question was asked as to how many moths were caught in surveys, compared to what is out there and it was stated that maybe only 5% are caught.

It was asked if there was a formula for determining the number of moths in a specific area or the state. It was replied that there was not, but that there is a complex formula used to evaluate spread and whether treatment is suggested in an area.

It was asked if there was something the community could be doing to assist the management of the gypsy moth and it was replied that the community does have access to some of the treatment options and that becoming knowledgeable in recognizing the gypsy moth life stages would be beneficial.

It was asked if the aerial treatment planes were computerized. It was replied that it would depend on the contractor hired. All treatments in recent years have been done with treatment planes equipped with computerized tracking systems.

It was asked if residents could put traps on their own properties. It was replied that IDNR would prefer that residents do not do this, as it will disrupt the accuracy of the data from the annual survey traps.

Other questions and concerns

Questions were asked about: trapping and survey methods; who they could contact to come look at their trees; general biology questions about gypsy moth; what control options were available to homeowners; what other controls are being explored; what natural predators/pathogens were present in Indiana; how to look for egg masses; how soon defoliation might occur; what plant species gypsy moth prefers; where gypsy moth came from; how proposed treatment sites are determined and questions regarding other insect pest issues and their control.

The response for trapping and survey methods explained how traps are set based on a grid system and how moth counts are used to locate increasing populations and then the moth counts are then used to try and locate egg masses. The quantity and location of moths and egg masses and locations of habitat determine whether an area is proposed for treatment or not and what the boundaries of the proposed treatment site are.

Questions were asked about trapping surveys in other areas of the state and trap catches were explained on those areas.

It was asked if gypsy moths bore into trees and it was replied that they did not.

It was asked if woodpeckers would attack gypsy moth and it was replied that most birds do not like the caterpillars because they are very hairy.

The response for whom to contact to investigate possible gypsy moth finds on properties stated that the IDNR would send a local employee out to examine trees.

Several general questions on biology and signs of infestation were responded to, by restating information from the presentation slides and by explaining the difference between gypsy moth and other common caterpillars and insect pests.

It was asked if gypsy moth generates webbing like the fall webworm. It was stated that the gypsy moth does not form webs. It was asked if there are a known proportion of males to females. The reply was it was not known.

It was asked if we have other moths on oak trees that are as destructive. It was stated our other moth species in Indiana that attack oaks are native species and are managed by native predators.

It was asked if cold weather affects the gypsy moth and it was stated that it did not generally affect the populations.

Control and survey options for homeowners were explained such as: burlap banding, soybean oil spray (Golden Pest Spray Oil) and insecticide sprays (including Btk).

It was responded that Indiana does have a few bird predators, some parasitic wasps and also two pathogens that can kill gypsy moth. These pathogens are specific to gypsy moth. It was also explained that as populations of gypsy moth build up, hopefully the natural pathogens with catch up and help manage populations. It was asked which wasps should be the good wasps as far as the public is concerned. It was replied that the gypsy moth enemies are solitary parasitic wasps, not the typical wasps the public would normally see.

The responses of preferred gypsy moth hosts included many urban landscape tree and shrub species, with over 500 known species as hosts.

It was asked if there are still ongoing studies regarding gypsy moth management. It was replied that yes, there is still ongoing research.

It was asked which company makes the mating disruption flakes. It was replied Hercon Environmental.

It was asked if gypsy moth was considered a temperate zone insect. The response was yes.

It was asked if the gypsy moth adults mate yearly. It was replied yes.

It was asked if IDNR was finding gypsy moth over a fairly far area in Allen County. It was replied that there are finds as far south as the airport.

It was asked if there had been much of a history of gypsy moth in the Wabash/Miami area proposed treatment site. Maps of trap catches were showed from 2007 to 2010 showing an increase in population.

A question was asked regarding the proposed Koontz Lake treatment site in Starke County if it was the furthest south we were treating. The reply was yes.

Lastly, a number of other responses were given in answer to questions on Emerald ash borer and other insects, based on the information given at the meeting.

Table 1. Date, time, and attendance of the public meetings for the proposed treatment sites by county. All meeting times are local times.

COUNTY	SITE	DATE	TIME	# Attending
Adams	Wren	February 12, 2011	2:00 PM	1
Allen	Bremer Road 11 Hadley Road 11 Kroemer Road 11 Lindenwood 11	January 31, 2011	3:00 PM 6:00 PM	7 1
Grant	Upland	January 25, 2011	6:30 PM	17
Lake	Highland	February 10, 2011	6:00 PM	19
Lake	Springrose Heath	February 9, 2011	6:00 PM	9
LaPorte/Starke	Bigler Road	February 16, 2011	6:30 PM	2
Marshall/Starke/St. Joseph	Koontz Lake Plymouth Tamarack Road	January 26, 2011	3:00 PM 6:00 PM	42 31
Marshall/Starke/St. Joseph	Koontz Lake Tamarack Road Walkerton	January 27, 2011	6:00 PM	11
Miami/Wabash	Mississinewa North Mississinewa South	February 9, 2011	6:00 PM	6
Porter	350 East 350 East Core	February 8, 2011	6:00 PM	11
Starke	Koontz Lake	February 17, 2011	6:00 PM	3
				160